IN THE CLAIMS:

The following claims are presented in the above-identified application.

Claims 1-67. (Canceled)

Claim 68. (New) A tooth illuminating apparatus comprising:

a mouthpiece including a light source for projecting light energy onto the labial surfaces of plural teeth of a subject and at least one mouthpiece index disposed at a predetermined position relative to light source; and

a positioner having at least one bite device adapted to be held by the subject between the subject's teeth and at least one locator disposed at a predetermined position relative to said bite device,

wherein said locator is disposed for contacting said mouthpiece index to position said light source in a predetermined spatial relationship with the labial surfaces of the subject's teeth when said bite device is held between the subject's teeth.

Claim 69. (New) The tooth illuminating apparatus of claim 68, wherein:

said mouthpiece index comprises a dimple in a surface of said mouthpiece; and

said positioner includes a bite member adapted to be held between the subject's teeth and a spacer rod having an end connected to said bite member, said locator comprising another end of said rod adapted to be received into said dimple.

Claim 70. (New) The tooth illuminating apparatus of claim 68, wherein:

said light source projects light from said mouthpiece in a predetermined pattern relative to the occlusal plane of the subject's teeth; and

said postioner places said pattern in a predetermined spatial relationship with the subject's teeth when said bite device is held between the subject's teeth with said locator contacting said mouthpiece index.

Claim 71. (New) The tooth illuminating apparatus of claim 70, wherein said light source projects a field of light with a substantially uniform light intensity onto the subject's teeth.

Claim 72. (New) The tooth illuminating apparatus of claim 68, wherein said light source emits actinic light for activating a photosensitive composition applied to the subject's teeth.

Claim 73. (New) The tooth illuminating apparatus of claim 72, wherein said actinic light has a wavelength in the range of about 350 nm to about 700 nm.

Claim 74. (New) The tooth illuminating apparatus of claim 73, wherein said wavelength is within the range of about 400 nm to about 505 nm.

Claim 75. (New) The tooth illuminating apparatus of claim 68, further including a cooling device for cooling said mouthpiece.

Claim 76. (New) The tooth illuminating apparatus of claim 77, wherein said cooling device includes a fan for drawing cooling air through said mouthpiece.

Claim 77. (New) The tooth illuminating apparatus of claim 68, wherein said mouthpiece further includes a mount for attaching said apparatus to a movable mounting arm.

Claim 78. (New) A tooth illuminating apparatus comprising:

a mouthpiece including a light source for projecting light energy onto the labial surfaces of plural teeth of a subject and index means disposed at a predetermined position relative to light source; and

positioning means for positioning said light source in a predetermined spatial relationship with the labial surfaces of the subject's teeth, said positioning means including bite means for the subject to hold between the subject's teeth and locator means disposed at a predetermined position relative to said bite means,

wherein said locator means is disposed for contacting said index means to position said light source in a predetermined spatial relationship with the labial surfaces of the subject's teeth when said bite means is held between the subject's teeth.

Claim 79. (New) The tooth illuminating apparatus of claim 78, wherein:

said index means comprises a dimple in a surface of said mouthpiece; and

said positioning means includes a bite member adapted to be held between the subject's teeth and a spacer rod having an end connected to said bite member, said locator means comprising another end of said rod adapted to be received into said dimple.

Claim 80. (New) The tooth illuminating apparatus of claim 78, wherein said light source projects a field of light with a substantially uniform light intensity onto the subject's teeth.

Claim 81. (New) The tooth illuminating apparatus of claim 80, wherein said light source emits actinic light for activating a photosensitive composition applied to the subject's teeth.

Claim 83. (New) The tooth illuminating apparatus of claim 81, wherein said actinic light has a wavelength in the range of about 350 nm to about 700 nm.

Claim 84. (New) The tooth illuminating apparatus of claim 82, wherein said wavelength is within the range of about 400 nm to about 505 nm.

Claim 85. (New) The tooth illuminating apparatus of claim 78, further including cooling means for cooling said mouthpiece.